DOMINANT™
Opto Technologies
Innovating Illumination

DATA SHEET:

Power DomiLED™

InGaN : DWx

Power DomiLED™

With its significant power in terms brightness, viewing angle and variety of application possibilities, Power DomiLED™ truly is a standout performer! Ideal for automotive interior lighting as well as home, office and industrial applications, it is also a proven performer in electronic signs and signals.

Features:

> High brightness surface mount LED.
> 120° viewing angle.
> Small package outline (LxWxH) of 3.2 x 2.8 x 1.8mm.
> Qualified according to JEDEC moisture sensitivity Level 2.
> Compatible to IR reflow soldering.
> Environmental friendly; RoHS compliance.
> Qualified based on AEC-Q101 Standard.

Applications:

> Automotive:
Interior applications, eg: switches, telematics, climate control system, dashboard, etc.
Exterior applications, eg: signal lighting, Center High Mounted Stop Light (CHMSL)
> Signage: full colour display video notice board, signage, special effect lighting.
> Industrial: white goods (eg: Oven, microwave, etc.), light bar, illuminated advertising.
> Lighting: architecture lighting, general lighting, garden light, channel light.

Optical Characteristics at Tj=25˚C

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ 30mA IV (mcd) Min.	Typ.	Max.	Total Flux @ 30mA mlm (typ)
● DWT-SJS-TU2-1	True Green, 525nm	120	285.0	450.0	715.0	1350
DWT-UJS-UV2-1	True Green, 525nm	120	450.0	715.0	1125.0	2000
● DWT-CJS-ST2-1	True Green, 525nm	120	180.0	285.0	450.0	850
● DWT-SJS-UV2-1	True Green, 525nm	120	450.0	715.0	1125.0	1350
● DWB-SJS-RS1-1	Blue, 470nm	120	112.5	140.0	224.0	470
DWB-UJS-R2S-1	Blue, 470nm	120	140.0	224.0	285.0	600
DWB-UJS-S2T-1	Blue, 470nm	120	224.0	285.0	450.0	900
● DWB-SJS-Q2R-1	Blue, 470nm	120	90.0	140.0	180.0	370

● Not for new design

NOTE
1. All part number above comes in a quantity of 2000 units per reel.
2. Other luminous intensity groups may also be available upon request.
3. Luminous intensity is measured with an accuracy of ± 11%.
4. Wavelength binning is carried for all units as per the wavelength-binning table. Only one wavelength group is allowed for each reel.
5. InGaN wavelength is very sensitive to drive current. Operating at lower current is not recommended and may yield unpredictable performance current pulsing should is used for dimming purposes.
6. An optional Vf bining is also available upon request. Bining scheme is as per following table.

Electrical Characteristics at Tj=25˚C

Part Number	Vf @ If = 30mA Min. (V)	Typ. (V)	Max. (V)	V_r @ I_r = 10uA Min. (V)
DWB	3.05	3.4	4.0	5
DWT	3.05	3.5	4.2	5

Forward voltages are measure using a current pulse of 1 ms and with an accuracy of ± 0.1V.

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	30	mA
Peak pulse current; (tp ≤ 10µs, Duty cycle = 0.1)	200	mA
Reverse voltage; Ir (max) = 10µA	5	V
ESD threshold (HBM)	2000	V
LED junction temperature	125	˚C
Operating temperature	-40 … +100	˚C
Storage temperature	-40 … +100	˚C
Power dissipation (at room temperature)	135	mW
Thermal resistance - Junction / ambient, $R_{th\ JA}$ - Junction / solder point, $R_{th\ JS}$ (Mounting on FR4 PCB, pad size >= 16 mm^2 per pad)	 350 180	 K/W K/W

Characteristics

	Symbol	Part Number	Value	Unit
Temperature coefficient of λ_{dom} (typ) I_F = 30mA; 0 ˚C <= T <= 100 ˚C	$TC_{\lambda dom}$ (typ)	DWT-UJS DWB-UJS	-0.009 0.003	nm / K
Temperature coefficient of V_F (typ) I_F = 30mA; 0 ˚C <= T <= 100 ˚C	TC_V	DWT-UJS DWB-UJS	-3.52 -3.80	mV / K
Temperature coefficient of I_V (typ) I_F = 30mA; 0 ˚C <= T <= 100 ˚C	TC_{IV}	DWT-UJS DWB-UJS	-0.19 -0.34	% / K

Wavelength Grouping at Tj=25˚C

Color	Group	Wavelength distribution (nm)
DWT; True Green	Full	520 - 536
	W	520 - 524
	X	524 - 528
	Y	528 - 532
	Z	532 - 536
DWB; Blue	Full	464 - 476
	W	464 - 468
	X	468 - 472
	Y	472 - 476

Dominant wavelength is measured with an accuracy of ± 1 nm.

Luminous Intensity Group at Tj=25˚C

Brightness Group	Luminous Intensity IV (mcd)
Q2	90.00...112.50
R1	112.50...140.00
R2	140.00...180.00
S1	180.00...224.00
S2	224.00...285.00
T1	285.00...355.00
T2	355.00...450.00
U1	450.00...560.00
U2	560.00...715.00
V1	715.00...900.00
V2	900.00...1125.00

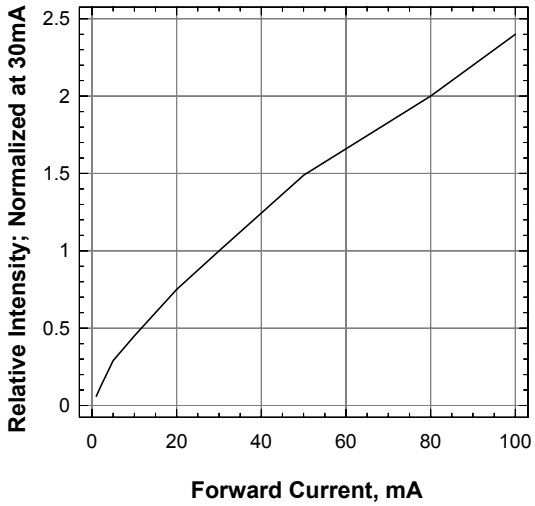
Luminous intensity is measured with an accuracy of ± 11%.

Vf Bining (Optional)

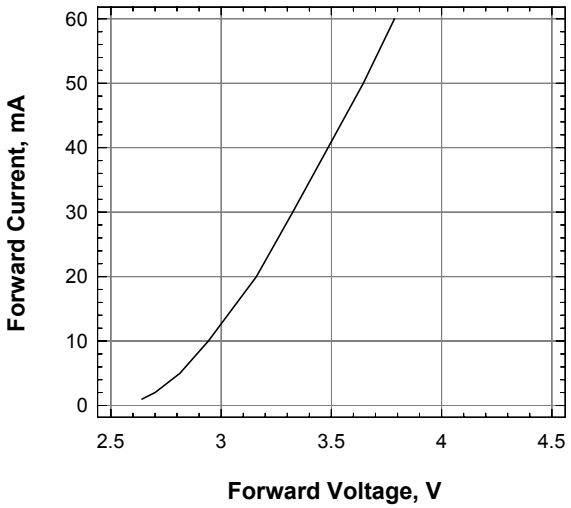
Vf @ If = 30mA	Forward Voltage (V)
3A	3.05 ... 3.35
30	3.35 ... 3.65
31	3.65 ... 3.95
32	3.95 ... 4.25

Forward voltage, Vf is measured with an accuracy of ± 0.1V.
Please consult sales and marketing for special part number to incorporate Vf binning.

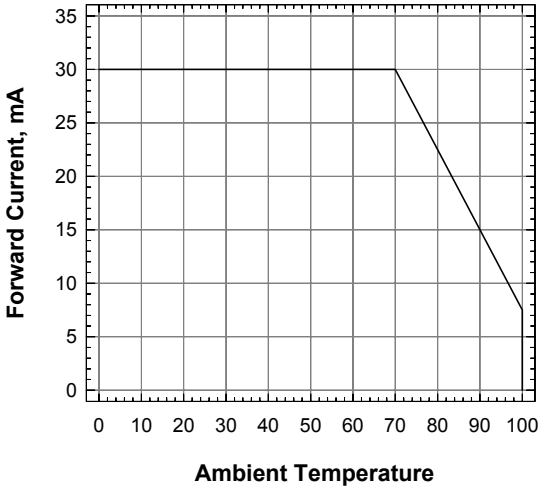
Relative Intensity Vs Forward Current



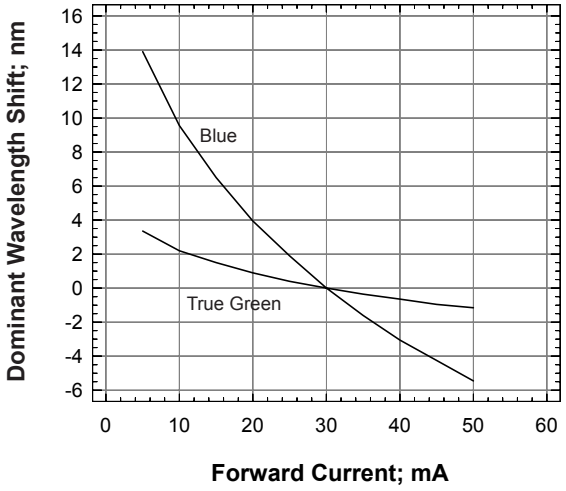
Forward Current Vs Forward Voltage



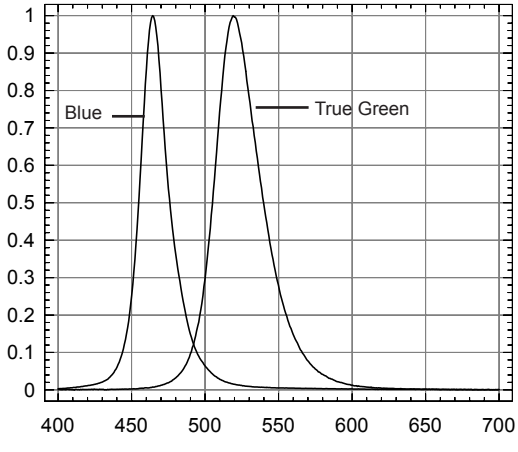
Maximum Current Vs Temperature



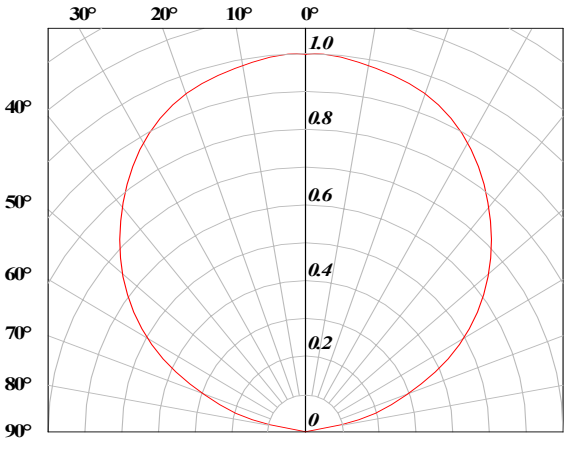
Dominant Wavelength Shift Vs Forward Current



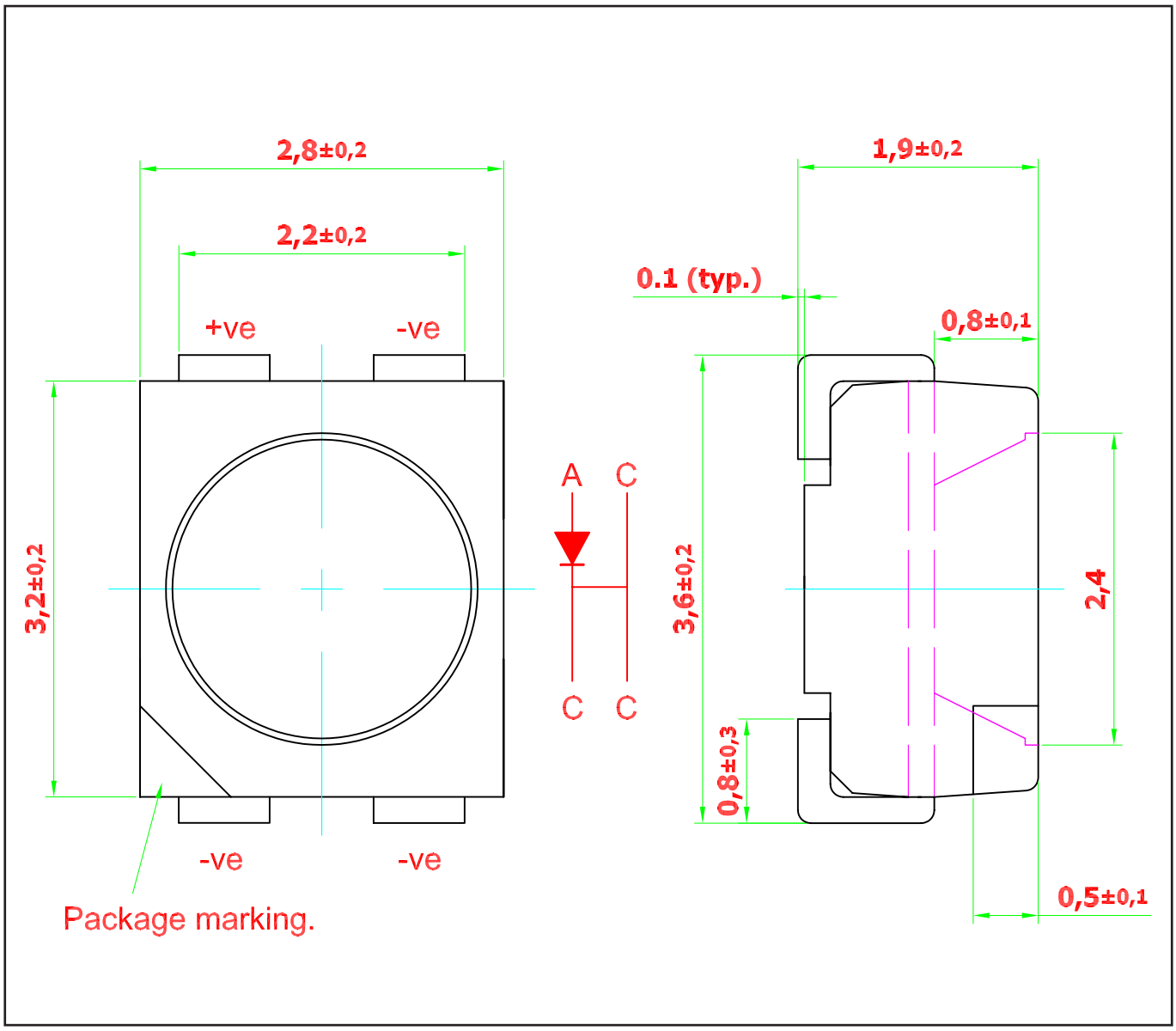
Relative Intensity vs Wavelength



Radiation Pattern



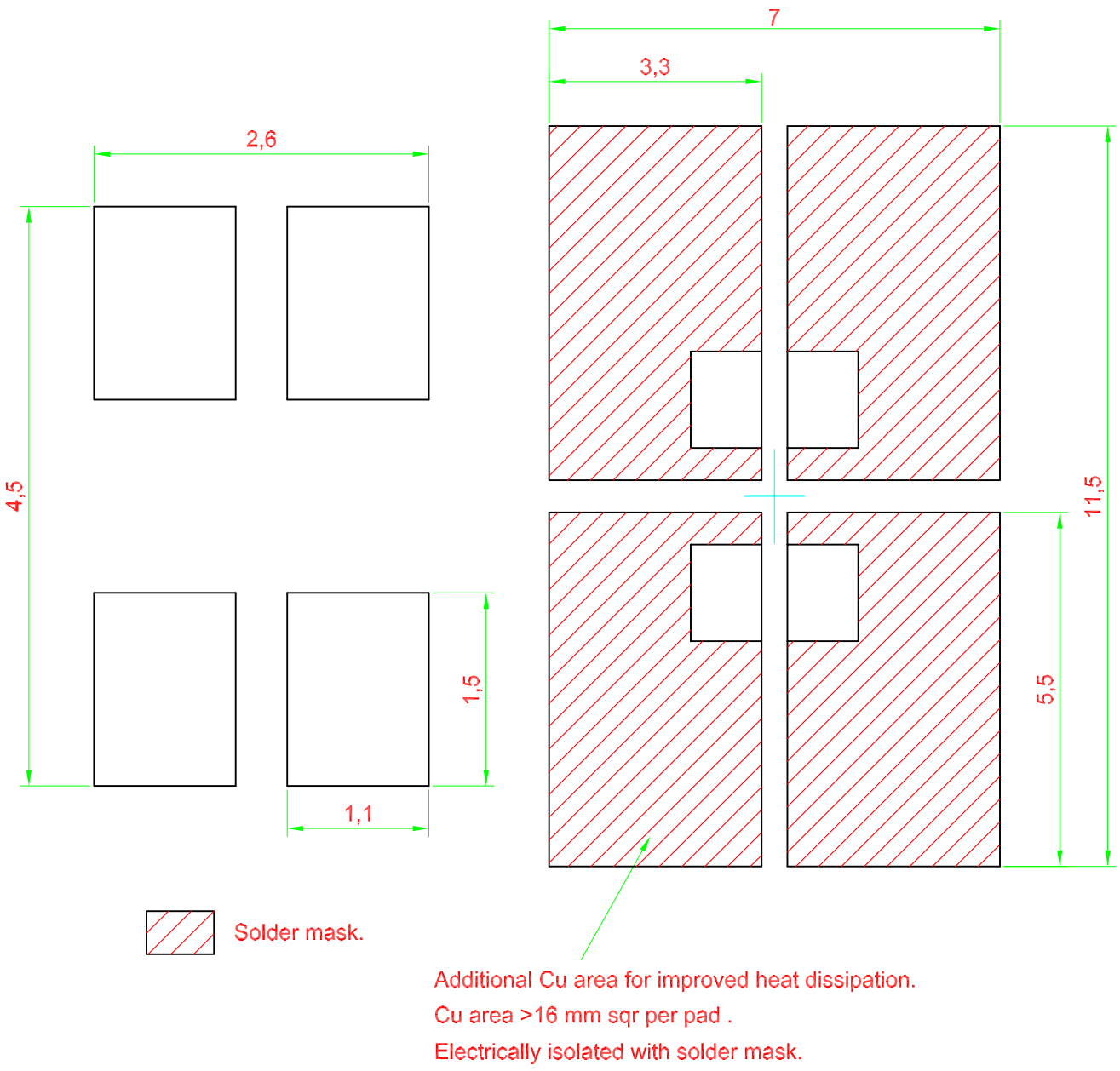
Power DomiLED™ • InGaN : DWx Package Outlines



Material

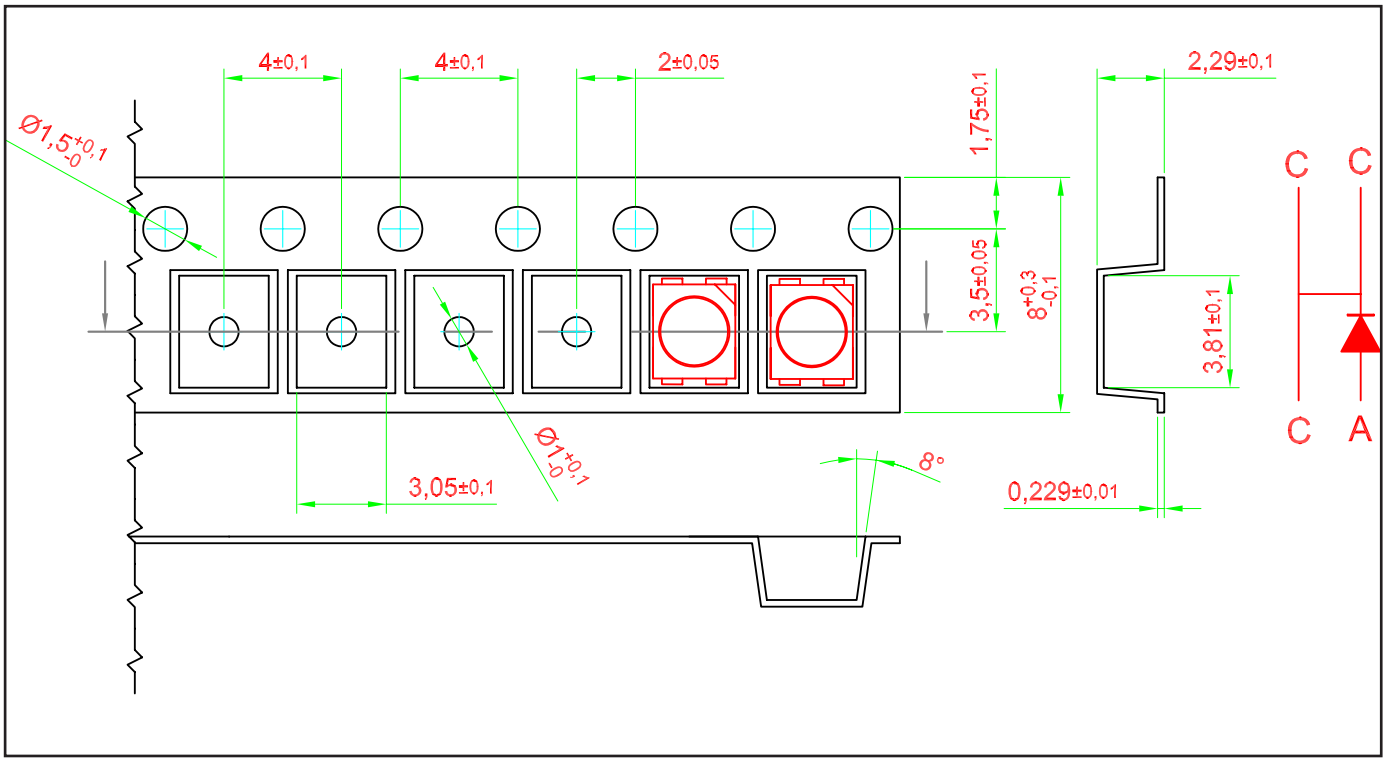
	Material
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulant	Epoxy
Soldering Leads	Sn-Sn Plating

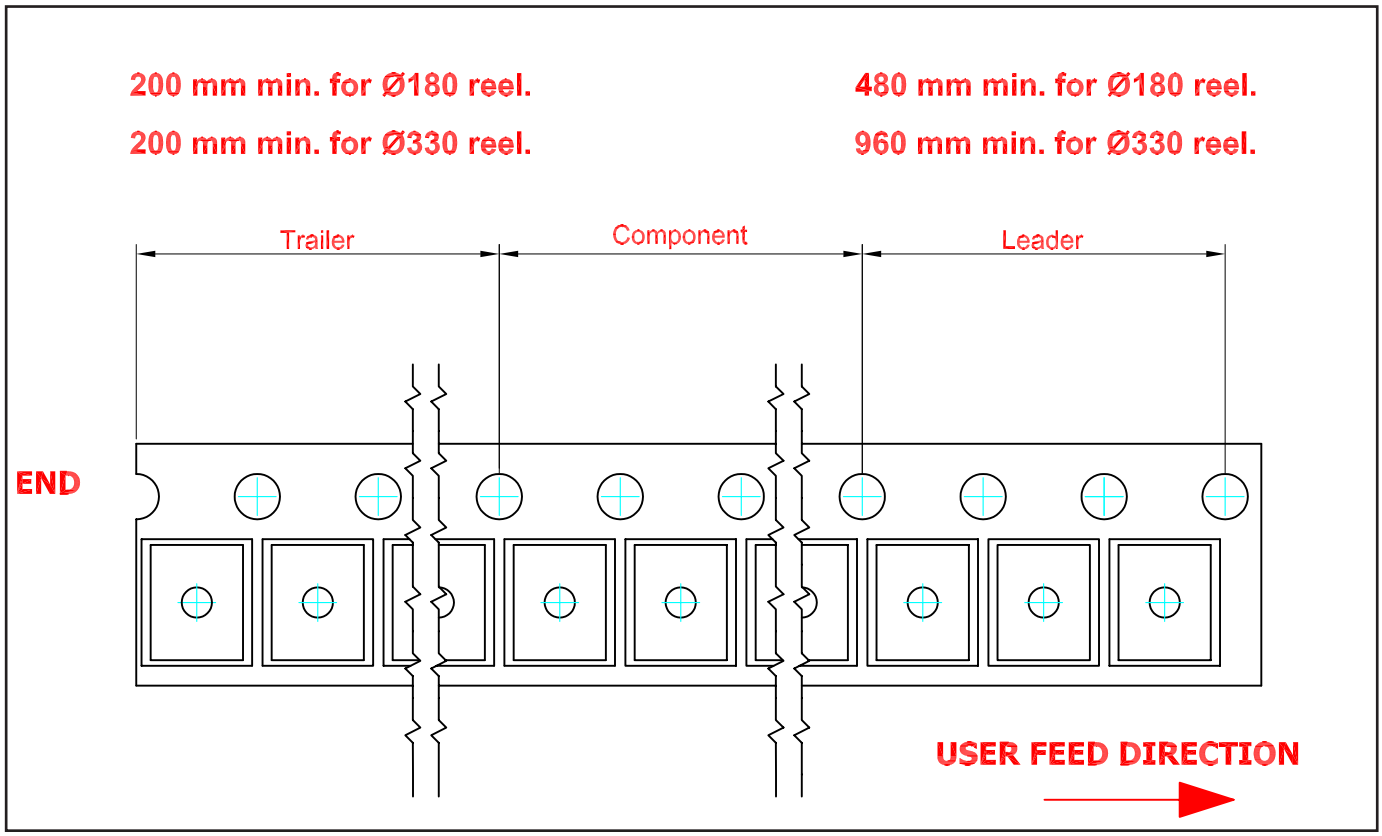
Recommended Solder Pad



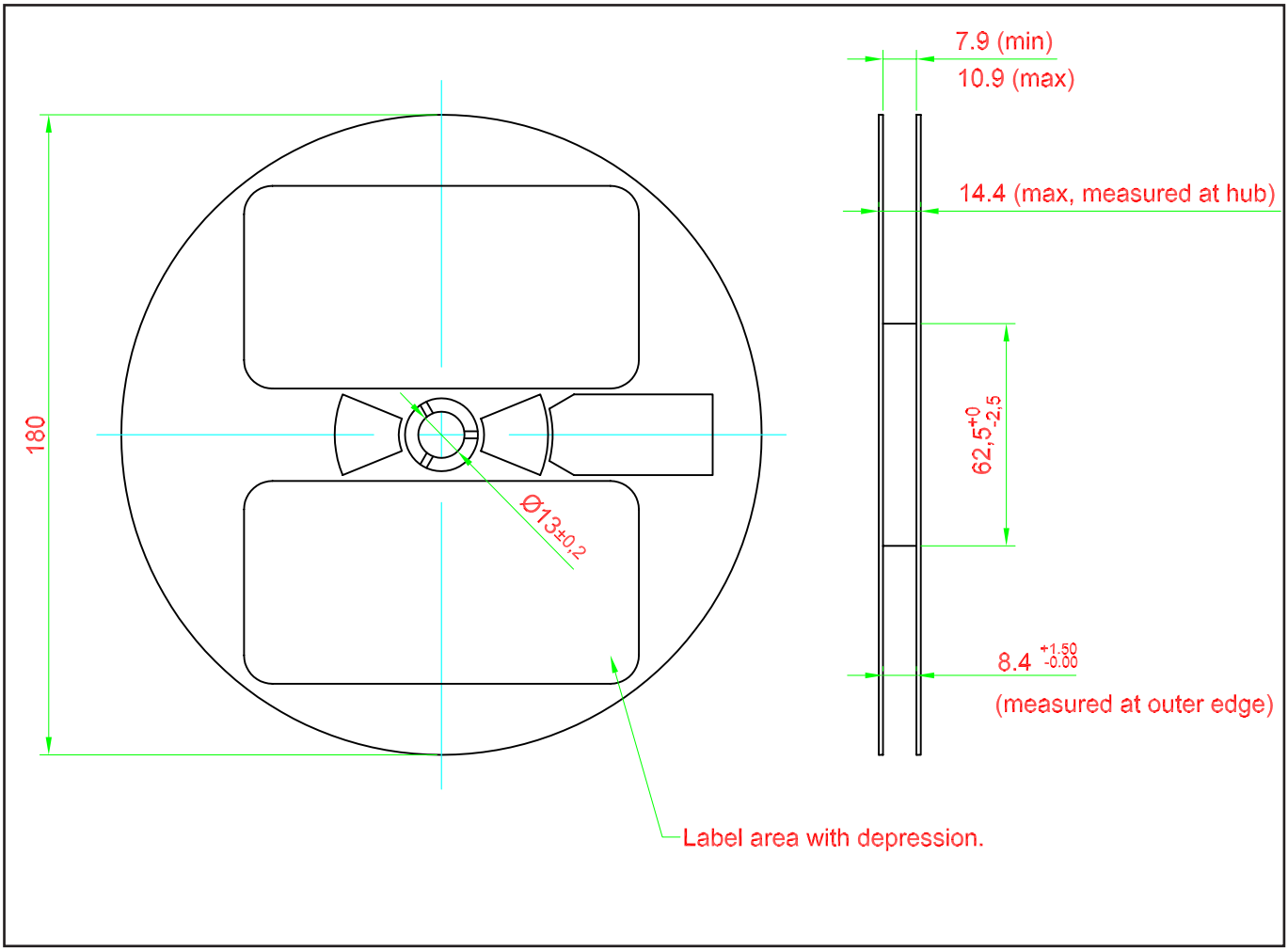
Taping and orientation

- Reels come in quantity of 2000 units.
- Reel diameter is 180 mm.

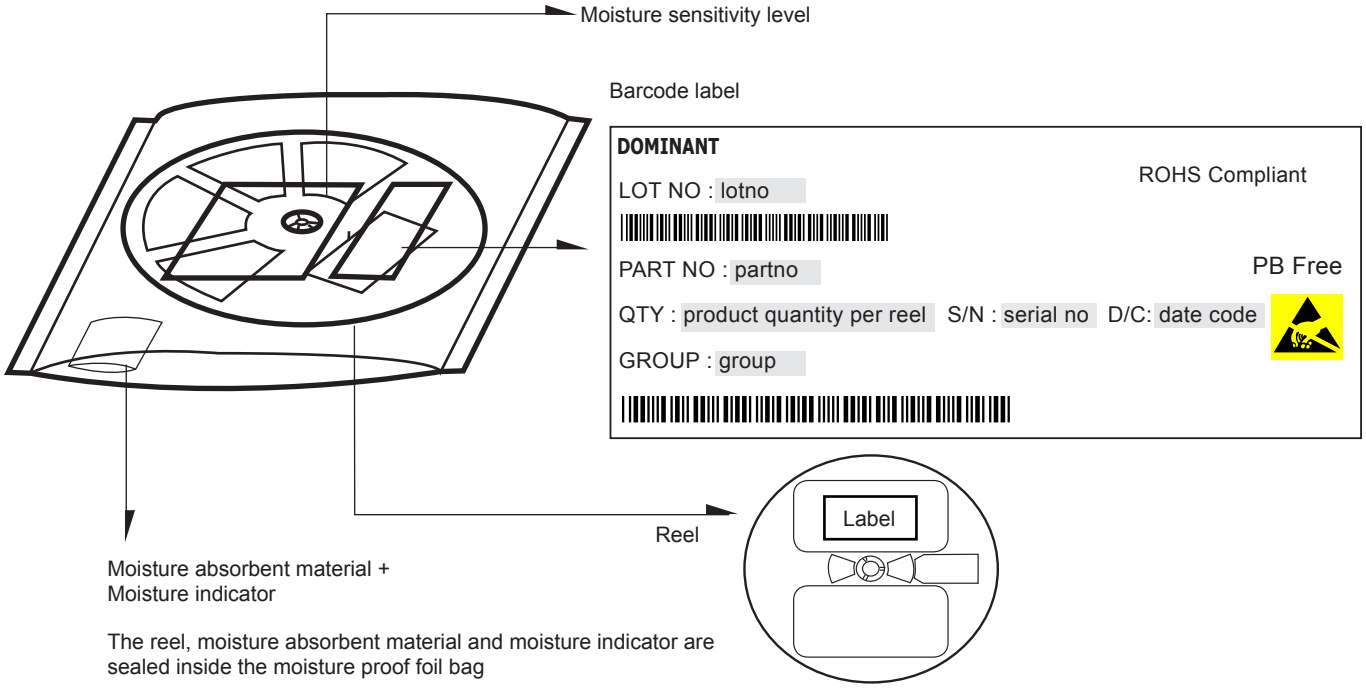




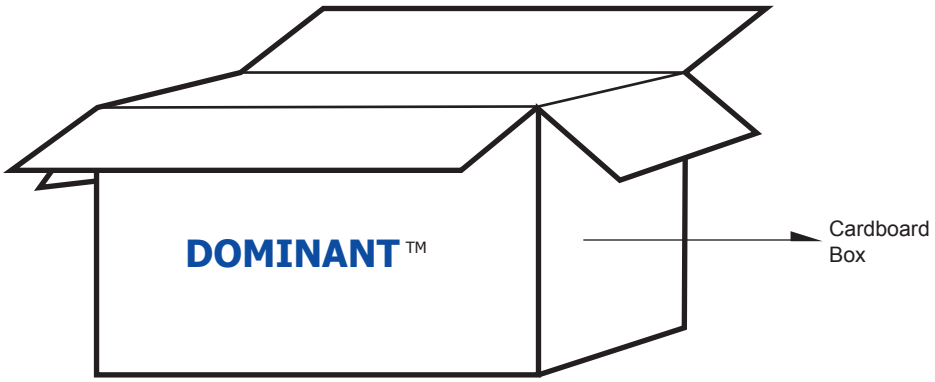
Packaging Specification



Packaging Specification



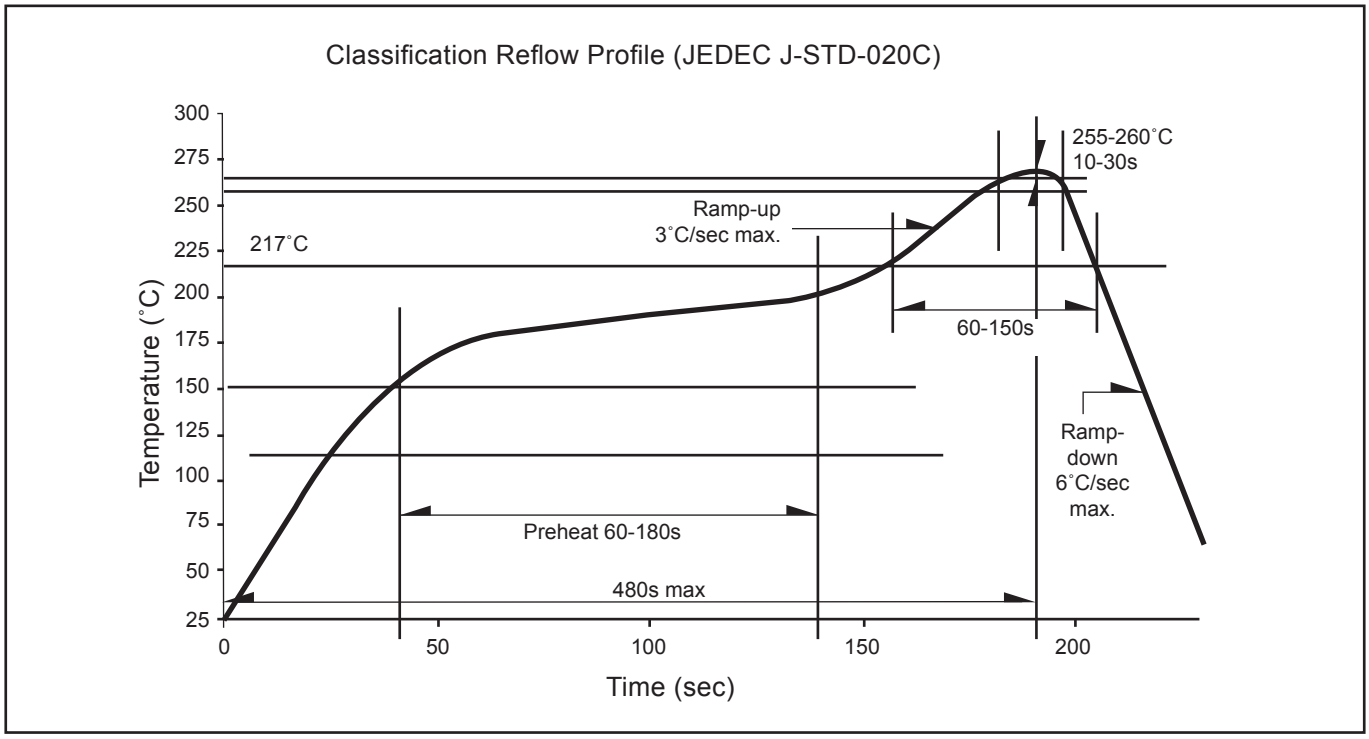
	Average 1pc Power DomiLED	1 completed bag (2000pcs)
Weight (gram)	**0.034**	**190 ± 10**



For Power DomiLED™

Cardboard Box Size	Dimensions (mm)	Empty Box Weight (kg)	Reel / Box	Quantity / Box (pcs)
Small	300 x 250 x 250	0.58	15 reels MAX	30,000 MAX
Large	416 x 516 x 476	1.74	96 reels MAX	192,000 MAX

Recommended Pb-free Soldering Profile



Revision History

Page	Subjects	Date of Modification
-	New Format	20 Feb 2006
2	- Add New PartNo: DWB-UJS-S2T-1 - DWT-SJS-UV2-1 --> Not for new design - DWC-SJS-UV2-1 --> Not for new design	04 Apr 2006
3	Add Thermal Resistance	19 May 2009
-	Update Company Name	15 Mar 2010
2	Not for new design --> DWC-SJS-TU2-1	05 Jul 2010
2	Not for new design --> DWT-SJS-TU2-1 --> DWB-SJS-RS1-1	26 May 2011
2	Remove partno --> DWC-SJS-TU2-1 --> DWC-UJS-UV2-1 --> DWC-CJS-ST2-1 --> DWC-SJS-UV2-1	30 Oct 2012
3	Add Characteristics	28 Apr 2015

NOTE

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About Us

DOMINANT Opto Technologies is a dynamic Malaysian Corporation that is among the world's leading SMT LED Manufacturers. An excellence – driven organization, it offers a comprehensive product range for diverse industries and applications. Featuring an internationally certified quality assurance acclaim, DOMINANT's extra bright LEDs are perfectly suited for various lighting applications in the automotive, consumer and communications as well as industrial sectors. With extensive industry experience and relentless pursuit of innovation, DOMINANT's state-of-art manufacturing, research and testing capabilities have become a trusted and reliable brand across the globe. More information about DOMINANT Opto Technologies can be found on the Internet at http://www.dominant-semi.com.

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